

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MASSACHUSETTS**

SINGULAR COMPUTING LLC,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

C.A. No. 1:19-cv-12551-FDS

Hon. F. Dennis Saylor IV

**DEFENDANT GOOGLE LLC'S OPPOSITION TO  
SINGULAR COMPUTING LLC'S MOTION FOR PARTIAL SUMMARY JUDGMENT  
OF NO INVALIDITY UNDER 35 U.S.C. § 101**

## **TABLE OF AUTHORITIES**

### **Cases**

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For the reasons stated in support of Google’s motion for summary judgment that the asserted patent claims are patent ineligible, *see* Dkt. 469 (“Google Memo.”), Singular’s patents fail the Supreme Court’s familiar two-step test for eligibility under section 101. *See Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014). Singular’s asserted patent claims are directed to an “abstract intellectual concept[]” about how to calculate mathematical results—namely, with low precision, for inputs over a high dynamic range—and thus they are, like the mathematical claims at issue in *Parker v. Flook*, 437 U.S. 584 (1978), and *Gottschalk v. Benson*, 409 U.S. 63 (1972), directed to ineligible subject matter. *See* 409 U.S. at 67 (holding that abstract intellectual concepts are not patentable, “as they are the basic tools of scientific and technological work”). Necessarily, Singular’s motion for partial summary judgment of no invalidity under 35 U.S.C. § 101 must be denied.

Singular’s motion is directed solely to step one of the *Alice* framework. *See* Singular Memo. at 1 (“Singular moves for summary judgment that the asserted claims are not directed to an abstract idea under Step 1 of the *Alice* test for validity under Section 101.”); *see also id.* at 3 (“Only Step 1 is at issue with the present motion.”). The parties agree that step one presents a pure issue of law. *See id.* at 3 (Singular); Google Memo. at 6-7 (Google). The parties therefore agree that there are no disputed issues of material fact as to step one and that the Court should resolve the issue now, by deciding whether the asserted claims are directed to an abstract idea.

As Google has already explained, the claims are directed to the abstract idea of a type of imprecise mathematics: a mathematical operation with low precision (i.e., a certain amount of error) and high dynamic range (i.e., the ability to handle a large range of valid inputs). *See* Google Memo. at 6-12. Singular is thus incorrect when it argues—without addressing what the claims *are* directed to—that the asserted patent claims are not directed to an abstract idea. *See* Singular Memo.

at 3-6. None of Singular’s arguments supports its erroneous conclusion that the asserted patent claims are not directed to an abstract idea.

*First*, notwithstanding the Court’s construction of “low precision and high dynamic range,” *see* Singular Memo. at 4-5, the broad, open-ended ranges recited in the asserted claims are directed to functional results, reciting that the execution units should *be* imprecise and *accept* a wide range of input values, but not reciting *how* to achieve those results. *See* Google Memo. at 8-9. Because those limitations offer no “limiting detail” that confines the asserted claims to “a particular solution to an identified problem,” neither asserted claim is directed to “a concrete embodiment . . . .” *Affinity Labs of Tex., LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016). “A narrow claim directed to an abstract idea . . . is not necessarily patent-eligible . . . .” *Intell. Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1321 (Fed. Cir. 2016). Instead, “[f]or an application of an abstract idea to satisfy step one, the claim’s focus must be something other than the abstract idea itself.” *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1287 (Fed. Cir. 2018). Singular does not explain how the recited numerical parameters for imprecision and range change the focus of the asserted claims. Even with those parameters, the claims are, as the specification expressly states, “directed to computer processors or other devices which use low precision high dynamic range (LPHDR) processing elements to perform computations (such as arithmetic operations).” ’273 patent at 5:65-6:2; *see also id.* at 2:11-18. “[A] claim is not patent eligible merely because it applies an abstract idea in a narrow way.” *BSG Tech*, 899 F.3d at 1287; *see also id.* at 1290 (“As a matter of law, narrowing or reformulating an abstract idea does not add ‘significantly more’ to it.”).

*Second*, the fact that claim 7 of the ’156 patent recites a computing device adapted to control the LPHDR execution units, *see* Singular Memo. at 5, does not mean that the claim is

directed to something more than an abstract idea. The “computing device” is a generic component that does not make claim 7 patent eligible. *See* Google Memo. at 10; *Alice*, 573 U.S. at 223. Singular does not argue that the computing device is not generic, or explain how it could be a concrete solution to a problem identified by the ’156 patent.

*Third*, Singular points out that the Court, in its claim construction order, “referenced numerous structural circuit disclosures disclosed in the specification of the patents,” such as figure 4. *See* Singular Memo. at 5. But the Court didn’t *limit* the claims to the circuit in figure 4, or to any other specific circuit disclosed in the specification. Neither party advocated for such a limitation. The Federal Circuit has “repeatedly held that features that are not claimed are irrelevant as to step 1 or step 2 of the *Mayo/Alice* analysis.” *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 967 F.3d 1285, 1293 (Fed. Cir. 2020); *see* Google Memo. at 16. Because “reliance on the specification must always yield to the claim language,” the lack of claim language that limits the asserted claims to specific structures renders exemplary embodiments such as figure 4 irrelevant at step one. *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019).

*Fourth*, the Court’s construction of “execution unit” to mean “a processing element comprising an arithmetic circuit paired with a memory circuit,” *see* Singular Memo. at 5-6, does not mean that the asserted claims are not directed to an abstract idea. Requiring generic components such as arithmetic circuitry and memory “cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Alice*, 573 U.S. at 223; Google Memo. at 10. Singular again fails to argue otherwise, or to explain how this construction limits the asserted claims to a concrete solution to a problem identified by the patents.

Singular raises no other arguments in support of its section 101 motion. *See* Singular Memo. at 3-6. It does not argue, for example, that the “exceeds” limitation (requiring that the

number of LPHDR execution units in the device exceeds by at least 100 the number of execution units adapted to perform mathematical operations on floating point numbers that are at least 32-bits wide), '273 patent at 32:13-17; '156 patent at 30:12-16, is relevant to the step one analysis. Google in any event has already explained why the asserted claims are directed to an abstract idea notwithstanding the “exceeds” limitation. *See* Google Memo. at 10-11. The Court should therefore deny Singular’s motion for partial summary judgment of no invalidity under 35 U.S.C. § 101.<sup>1</sup>

Respectfully submitted,

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<sup>1</sup> For the reasons given in Google’s section 101 motion, the Court should instead grant judgment that the asserted claims are patent ineligible. But because Singular has not moved for partial summary judgment with respect to step two, *see* Singular Memo. at 3 (“Only Step 1 is at issue with the present motion.”), if the Court were to agree with Google at step one, yet conclude that Google has not shown a lack of a genuine dispute as to any material facts with respect to step two, the Court should then reserve resolution of step two until after trial.

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